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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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RICHARD ARON OSMAN 4070 CALLE ISABELLA SAN CLEMENTE, CA 92672			EXAMINER BETTON, TIMOTHY E	
			ART UNIT 1614	PAPER NUMBER
			MAIL DATE 08/27/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/664,991

Applicant(s)

BJELDANES ET AL.

Examiner

Timothy E. Betton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 8-14 and 20-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 15-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

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### **DETAILED ACTION**

Applicants'/attorney submission of Proposed Amendments filed 1 August 2007 has been duly acknowledged and made of record. The applicants' ready submission and proposal of a draft claim 23 are aptly regarded. However, examination of the elected claims 1-7 and 15-19 (initial election group) will be reconsidered and reexamined because draft claim 23 fails to overcome or prevent the following new issues.

Rejections and/or objections not reiterated from previous office actions are hereby withdrawn. The following rejections and/or objections are either reiterated or newly applied. They constitute the complete set presently being applied to the instant invention.

#### ***Status of the Claims***

Claims 1-22 are pending in the application. Claims 8-14 and 20-22 are withdrawn from further consideration. Claims 1-7 and 15-19 are pending for further prosecution.

#### ***Claim Rejections – 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

***Joint Inventors***

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-7 and 15-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nachshon-Kedmi et al. in view of Safe (PGPUB 2002/0115708 A1).

Nachshon-Kedmi et al. teach a cell-line study directed toward the apoptotic effects of 13C and DIM on prostate cancer cells (Abstract, page 747, 1<sup>st</sup> column).

Distinct biochemical and morphological features, including cell shrinkage, characterize the apoptotic process. Cell shrinkage is a physiological occurrence, which, to the ordinary, skilled artisan would constitute a form of reduction as antiandrogenic response (page 750, column 2, lines 6-10).

Nachshon-Kedmi et al. teach prostate hyperplasia cell lines with variable differences in p53 status (page 746). The p53 gene is significantly involved in the regulative aspect of the apoptotic process (page 752, column 1, last paragraph)

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Additionally, said reference makes the claimed invention obvious via the explanation of Western blot analysis, i.e., the determining, contacting, and reducing method steps of claimed invention (page 747).

Further, said reference teaches the actual process by which apoptosis occurs. Principally, during apoptosis, PARP is cleaved from its precursor having a mass of 116kDa, to yield an 85-kDa fragment. There is cleavage in PARP in all cell lines, but to varying degrees. The skilled artisan would at once recognize the reduction of cellular matter via the marked mass decrease from 116kDa to 85kDa.

Safe teaches methods and compositions for the treatment of a wide array of cancers and tumors. In illustrative embodiments, diindolylmethanes, C-substituted diindolylmethanes, and analogs thereof have been described, which when administered either alone, or in combination with other anti-cancer or anti-tumorigenic compounds, provide new therapies for the treatment of prostate cancer (Abstract, [0050], last line of instant paragraph).

Safe teaches a practicing administration (in vitro and in vivo) to human patients in need thereof via inhibition of prostate cancer cell growth [0065, 0049].

Safe discloses the directed use of DIM and derivatives thereof for the specific contacting, detecting, and inhibiting via a gel mobility shift assay for prostate cancer cells (Brief description of Drawings – Table CWU – DRTL (1)) in a comparative study to estrogen-dependent pathologies. Safe further discloses the practicing methods of administering said antiandrogenic agent in claims 16,34,51, and 69, therein.

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Safe teaches derivatives of the practicing DIM core structure that are also taught in the instant application. In said referenced publication on page 3, section [0039] under the heading: Definitions, said structure is disclosed. Derivatives of the core structure are disclosed in the instant application on page 3 of the specification under the heading: Summary of Invention. Safe discloses in published claims, the *in vitro* method (by use of assays which are disclosed empirical series of method steps used to detect a reaction) of treating cancer, the method comprising obtaining a mammal comprising cancer cells, and administering to the mammal a composition comprising an effective dose of a compound of the said formula. Claims 17-19 are made obvious over claims 16, 34, 51, and 69 in Safe obvious over using this related core structure in the use of treatment against the specific cancer-types, i.e., prostate cancer and pathologies thereof.

Safe teaches detection on page 5, Example 2, section [0058] in that a process is disclosed where inhibition was determined, i.e., where clear proliferation of cancer cell lines were significantly inhibited. Further, detection is implied in said reference where sensitive cells were noticeably inhibited at the lowest concentration.

Safe, in accordance, more specifically teaches detection on page 4, section [0047] of said referenced publication where resolution of the mixture using chiral chromatography column would result in the isolation of purified or pure enantiomers products. Furthermore, Safe teaches the use of thin-layer chromatography and liquid chromatography in section [0067] (page 6), both well-established detection methods and/or detection facilitators.

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Thus, it would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to combine together the teachings and methods of Nachshon-Kedmi et al. and Safe. The skilled artisan would have at once recognized the reasonable expectation of success if the teachings and methods of Nachshon-Kedmi et al. were combined with the teachings of Safe. Safe suggests and supports the motivation to combine via the disclosure of particular limitations, which make the instant set of claims obvious. Likewise, the motivation to combine both references would have been obvious and proper to one of ordinary skill due to overlap of core compounds, assaying methods, and goal of regimen.

It is well known in the art that 13C and DIM (a predominant conversion product of 13C) is a potent antiandrogenic. Therefore, It would have been *prima facie* obvious to combine that, which is taught in Nachshon-Kedmi et al. with that which is taught by Safe to result in the practice of the limitations of claimed invention.

### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy E. Betton whose telephone number is (571) 272-9922. The examiner can normally be reached on Monday-Friday 8:30a - 5:00p. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ardin H. Marschel can be reached on (571) 272-0718. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

 8/26/07  
ARDIN H. MARSCHEL  
SUPERVISORY PATENT EXAMINER

TEB